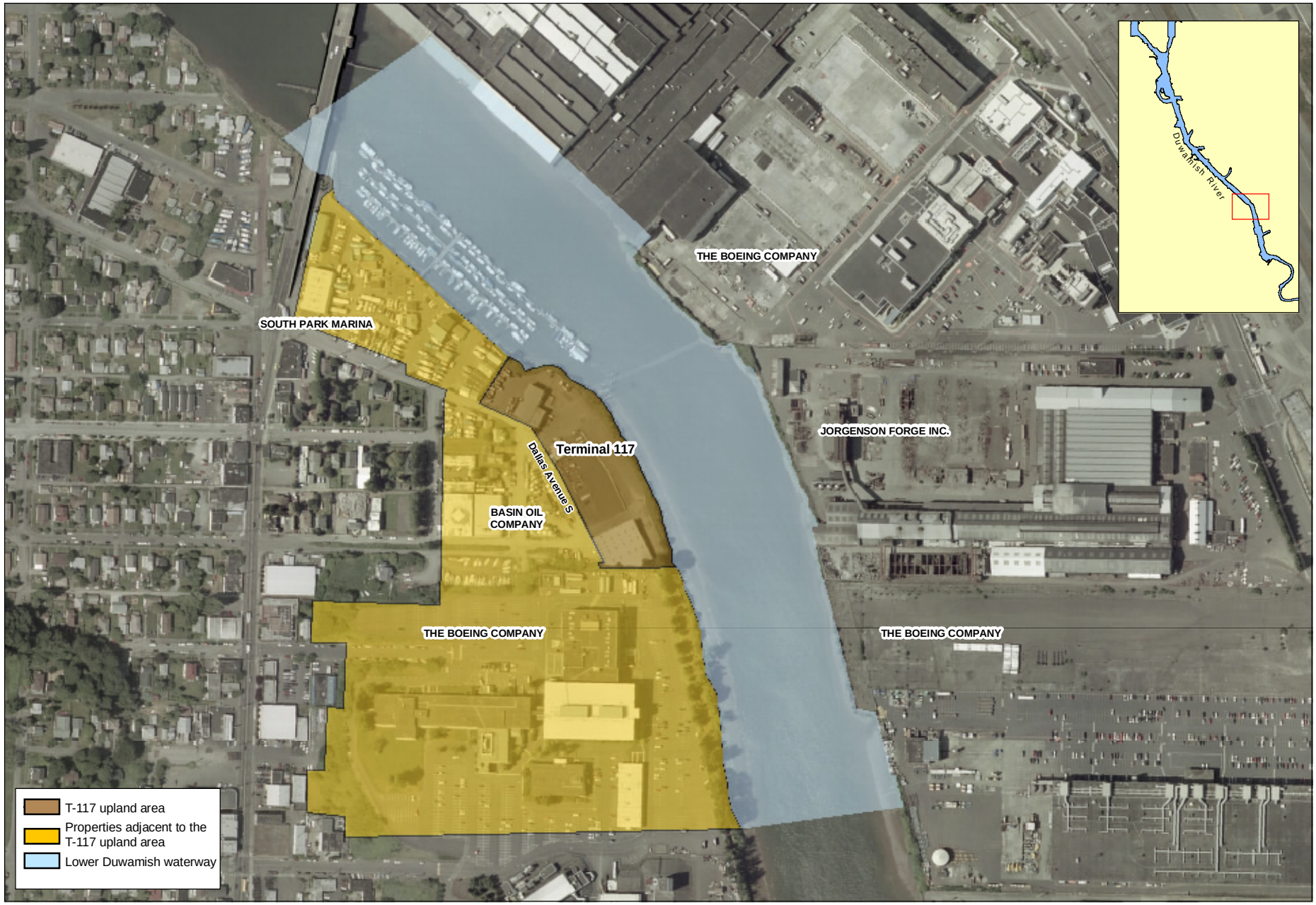


Orthophoto source: King County 2002

0 125 250 500 Feet

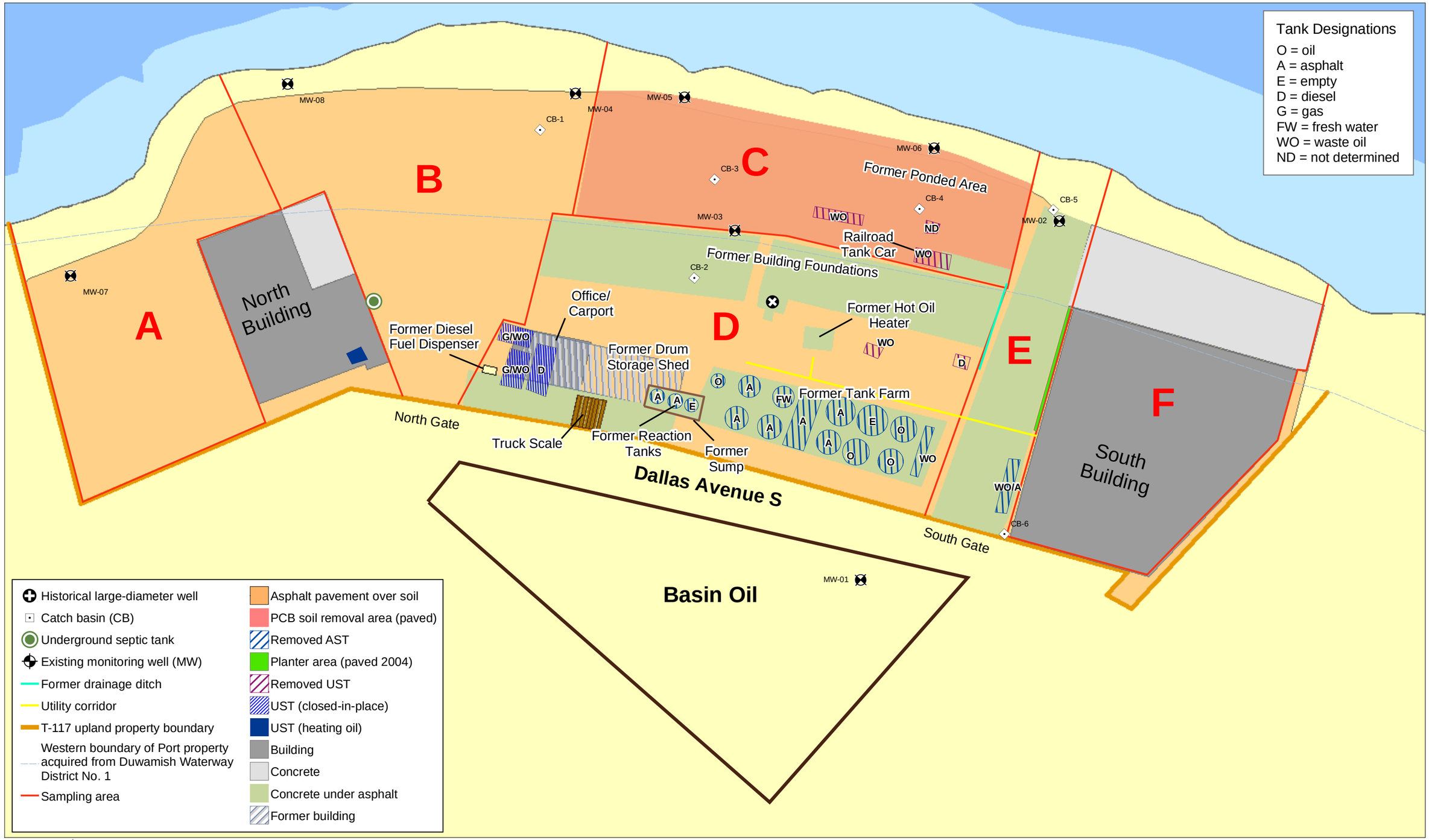
0 25 50 100 Meters

N

Figure 2-1. T-117 site location map

(Source: 966) Prepared by STS 08/22/05, revised 01/06/05, Map 2104

W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland Investigation



Source: SECOR 1998

Figure 2-2. Historical site features and operations at T-117

Source (1989); prepared by KH 11/18/05, edited 01/04/06, Map 2098

W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland Investigation

Orthophoto source: King County 2002

0 30 60 120 Feet

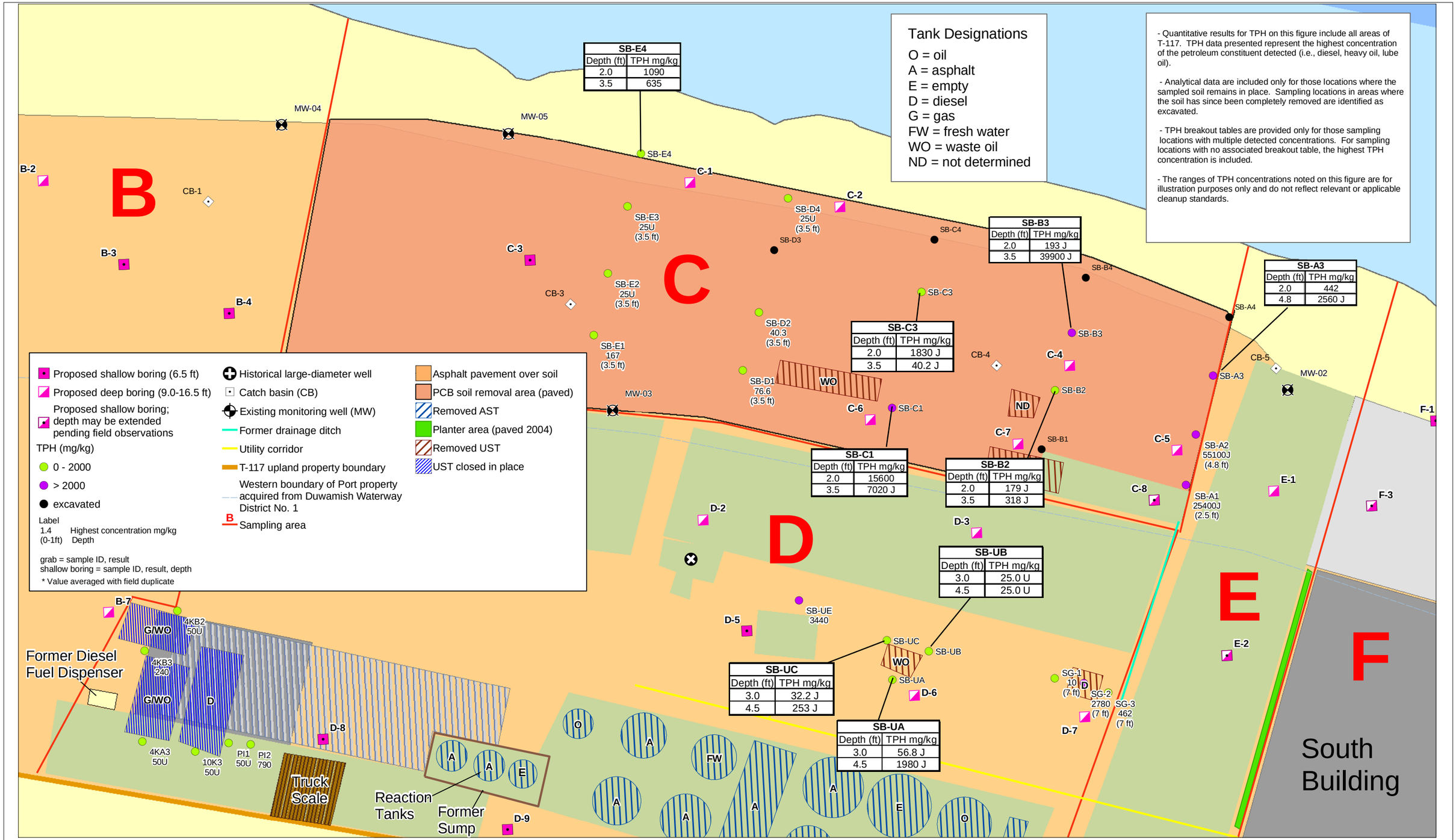
0 4 8 16 Meters

N

Figure 2-3. Present-day configuration of T-117

(Source: 966) Prepared by STS 08/22/05, revised KH 01/06/06, Map 2105

W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland investigation

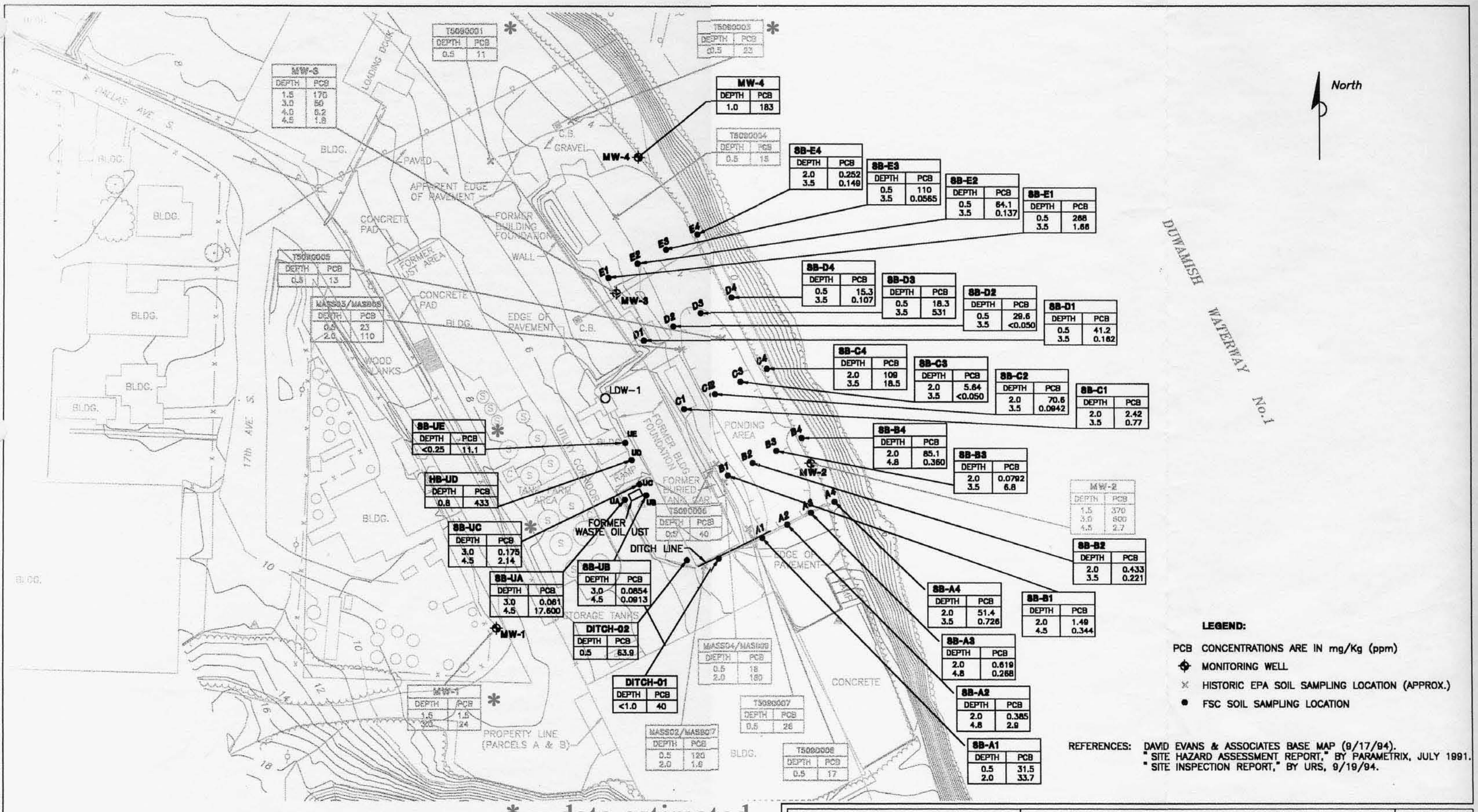


Sources: Hart Crowser 1992; SECOR 1998; Onsite 2000b

0 12.5 25 50 Feet
0 2.5 5 10 Meters

Figure 2-4. TPH results and proposed borings

Source (1929); prepared by KH 08/22/05, revised 01/17/06, Map 2020
W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland Investigation



* = data estimated to be relevant after 1999 removal

SECOR International Incorporated

PCB characterization used as basis for the 1999 removal action

FIGURE: **2-5**

JOB#: 00392-001-01 APPR: DWN: KWW DATE: 10/7/97

Sourece: SECOR 1998; Onsite 1999; Windward et al. 2005b, c

0 12.5 25 50 Feet
0 2.5 5 10 Meters

Figure 2-6. Areas C and D PCB results and proposed borings

Source (1977, 2041); prepared by KH 11/22/05, revised 01/16/06, Map 2102

W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland Investigation

Tank Designations
O = oil
A = asphalt
WO = waste oil
ND = not determined

- Quantitative results for PAHs on this figure include all areas of T-117. Relevant PAH data presented are a summation of individual PAH compound results.

- Analytical data are included only for those locations where the sampled soil remains in place. Sampling locations in areas where the soil has since been completely removed are identified as excavated.

- PAH breakout tables are provided only for those sampling locations with multiple detected concentrations. For sampling locations with no associated breakout table, the highest PAH concentration is included.

- The ranges of PAH concentrations noted on this figure are for illustration purposes only and do not reflect relevant or applicable cleanup standards.

SB-1	
Depth (ft)	PAHs mg/kg
0 - 1.5	0.277 J
2.5 - 4	0.22
5 - 6.5	0.59
7.5 - 9	0.10
12.5 - 14	2.07 J
17.5 - 19	0.039

SB-2	
Depth (ft)	PAHs mg/kg
0 - 1.5	12.3
2.5 - 4	9.5
5 - 6.5	0.070
17.5 - 19	0.019 U

SB-3	
Depth (ft)	PAHs mg/kg
0 - 1.5	5.6
2.5 - 4	20.8
5 - 6.5	0.62
7.5 - 9	1.17
12.5 - 14	0.019 U
17.5 - 19	0.020 U

SB-E4	
Depth (ft)	PAHs mg/kg
2.0	0.698 J
3.5	0.410 U

SB-C3	
Depth (ft)	PAHs mg/kg
2.0	7.87 J
3.5	0.3795 J

SB-4	
Depth (ft)	PAHs mg/kg
0 - 1.5	0.138
2.5 - 4	0.047
5 - 6.5	53
7.5 - 9	0.174
12.5 - 14	0.019 U
17.5 - 19	0.019 U

SB-B3	
Depth (ft)	PAHs mg/kg
2.0	1.25 J
3.5	0.2238 J

SB-A3	
Depth (ft)	PAHs mg/kg
2.0	0.410 U
4.8	0.724 J

SB-5	
Depth (ft)	PAHs mg/kg
0 - 1.5	1.026
2.5 - 4	0.019 U
5 - 6.5	0.020 U
7.5 - 9	0.019 U
12.5 - 14	0.019 U
17.5 - 19	0.050

SB-6	
Depth ft	PAHs mg/kg
0 - 1.5	2.07
2.5 - 4	0.643
5 - 6.5	1.97 J
12.5 - 14	0.019 U
17.5 - 19	0.020 U

SB-C1	
Depth (ft)	PAHs mg/kg
2.0	6.14 J
3.5	10.39 J

SB-B2	
Depth (ft)	PAHs mg/kg
2.0	0.410 U
3.5	0.0100 U

SB-UB	
Depth (ft)	PAHs mg/kg
3.0	0.410 U
4.5	0.0100 U

SB-UC	
Depth (ft)	PAHs mg/kg
3.0	0.482 J
4.5	0.161 J

SB-UA	
Depth (ft)	PAHs mg/kg
3.0	0.410 U
4.5	0.410 U

SB-E3 0.34 (3.5 ft)
SB-E2 0.098 (3.5 ft)
SB-E1 0 (3.5 ft)
SB-D4 0.33 (3.5 ft)
SB-D3
SB-D2 0 (0.5 ft)
SB-D1 0.42 (3.5 ft)
SB-C4
SB-C3
SB-C2
SB-C1
SB-B4
SB-B3
SB-B2
SB-B1
SB-A4
SB-A3
SB-A2 3 (2 ft)
SB-A1 3 (2 ft)
SB-UE 0
SB-UC
SB-UB
SB-UA
DS-1 3.4
DS-2 8.7

B-1 B-2 B-3 B-4 B-5 B-7
C-1 C-2 C-3 C-4 C-5 C-6 C-7 C-8
D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8 D-11
E-1 E-2 E-3
F-1 F-2 F-3 F-4 F-5 F-6 F-7 F-8 F-9
MW-02 MW-03 MW-04 MW-05 MW-06
CB-1 CB-2 CB-3 CB-4 CB-5 CB-6

B
C
D
E
F
South Building
South Gate
Former Diesel Fuel Dispenser
G/WO
WO
ND
WO/A
A
O
FW
D

- Proposed shallow boring (6.5 ft)
- Proposed deep boring (9.0-16.5 ft)
- Proposed shallow boring; depth may be extended pending field observations

PAHs (mg/kg)
- 0 - 2.0
- > 2.0
- excavated

Label
1.4 (0-1ft) Highest concentration mg/kg, Depth

grab = sample ID, result
shallow boring = sample ID, result, depth
* Value averaged with field duplicate

- Historical large-diameter well
- Catch basin (CB)
- Existing monitoring well (MW)
- Sampling area
- Former drainage ditch
- Utility corridor
- Western boundary of Port property acquired from Duwamish Waterway District No. 1
- T-117 upland property boundary

- PCB soil removal area (paved)
- Asphalt pavement over soil
- Building
- Concrete
- Concrete under asphalt
- Removed AST
- Planter area (paved 2004)
- Removed UST
- UST (closed-in-place)

Sources: SECOR 1998; Windward et al. 2005b

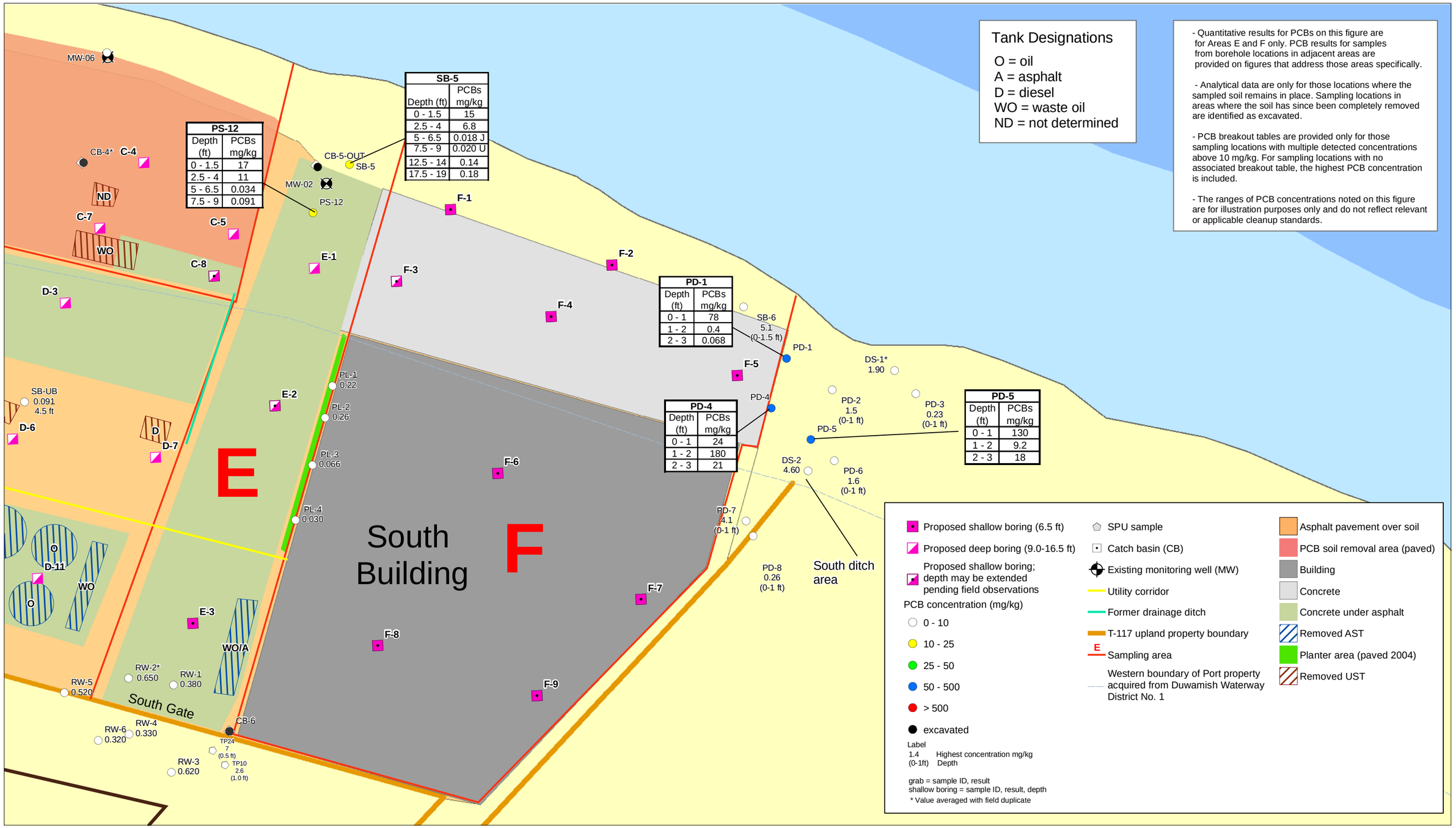
0 12.5 25 50 Feet
0 2.5 5 10 Meters

Figure 2-7. PAH results and proposed borings

Windward environmental LLC

Source (1929); prepared by KH 08/22/05, revised 01/12/06, Map 1989

W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland Investigation



Sources: Onsite 2004; SECOR 1998; Windward et al. 2005b

Figure 2-8. Areas E and F PCB results and proposed borings

Source (1977, 2041); prepared by KH 11/23/05, revised 01/16/06 Map 2102

W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland Investigation

- Quantitative results for PCBs on this figure are for Area A only. PCB results for samples from borehole locations in adjacent areas are provided on figures that address those areas specifically.

- Analytical data are only for those locations where the sampled soil remains in place. Sampling locations in areas where the soil has since been completely removed are identified as excavated.

- PCB breakout tables are provided only for those sampling locations with multiple detected concentrations above 10 mg/kg. For sampling locations with no associated breakout table, the highest PCB concentration is included.

- The ranges of PCB concentrations noted on this figure are for illustration purposes only and do not reflect relevant or applicable cleanup standards.

SB-17

Depth (ft)	PCBs mg/kg
0 - 1.5	240
2.5 - 4	88
5 - 6.5	0.17
7.5 - 9	0.074 U
10 - 11.5	0.088 U
12.5 - 14	0.067
15 - 16.5	0.019 U
17.5 - 19	0.019 U
20 - 21.5	0.47

PS-3

Depth (ft)	PCBs mg/kg
0 - 1.5	760
2.5 - 4	19
5 - 6.5	7.2
7.5 - 9	2.7

PS-2

Depth (ft)	PCBs mg/kg
0 - 2	39
2 - 4	43
4 - 6	2

SB-16

Depth (ft)	PCBs mg/kg
0 - 1.5	31
2.5 - 4	0.36
5 - 6.5	0.19 U
7.5 - 9	0.024
10 - 11.5	0.052
12.5 - 14	0.020 U
15 - 16.5	0.020 U
17.5 - 19	0.020 U

PS-1

Depth (ft)	PCBs mg/kg
0 - 2	18
2 - 4	20

PS-5
SB-17
PS-3
SB-20 1.5 (0-1.5 ft)
SB-11 70 (0-1.5 ft)
A-4
SB-19 5.7 (0-1.5 ft)
SB-29 2.9 (0-1.5 ft)
PS-2
SB-14 31 (0-1.5 ft)
SB-12 37 (0-1.5 ft)
SB-16
A-10
PS-1
SB-32 0.081 (5-6.5 ft)
SB-35 9.8 (2.5-4 ft)
A-3
SB-15 5.0 (0-1.5 ft)
SB-13 5.0 (0-1.5 ft)
MW-07
SB-34 2.8 (7.5-9 ft)
A-1
A-2
A
A-7
North Building
B-6
A-5
A-6
A-9
B-8
A-8
TP1 9.8 (0.5 ft)
TP2 7 (0.5 ft)
TP3 4.7 (0.5 ft)
TP28 9.5 (0.5 ft)
TP40 480 (0.5 ft)
TP37 5.8 (0.5 ft)
TP42 100 (0.5 ft)

- Proposed grab sample
- Proposed shallow boring

PCB concentration (mg/kg)

- 0 - 10
- 10 - 25
- 25 - 50
- 50 - 500
- > 500

Label
1.4 Highest concentration (mg/kg)
(0-1ft) Depth

grab = sample ID, result
shallow boring = sample ID, result, depth
* Value averaged with field duplicate

- SPU sample
- Windward sample
- Underground septic tank
- Existing monitoring well (MW)
- A — Sampling area
- T-117 upland property boundary
- Western boundary of Port property acquired from Duwamish Waterway District No. 1
- Asphalt pavement over soil
- Building
- Concrete
- UST heating oil

Sources: Windward et al. 2005b, c, e

0 12.5 25 50 Feet
0 2.5 5 10 Meters

Figure 2-9. Area A PCB results and proposed borings

Source (1977, 2041); prepared by KH 01/16/06, Map 2102
W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland Investigation

- Quantitative results for PCBs on this figure are for Area B only. PCB results for samples from borehole locations in adjacent areas are provided on figures that address those areas specifically.

- Analytical data are only for those locations where the sampled soil remains in place. Sampling locations in areas where the soil has since been completely removed are identified as excavated.

- PCB breakout tables are provided only for those sampling locations with multiple detected concentrations above 10 mg/kg. For sampling locations with no associated breakout table, the highest PCB concentration is included.

- The ranges of PCB concentrations noted on this figure are for illustration purposes only and do not reflect relevant or applicable cleanup standards.

PS-4

Depth (ft)	PCBs mg/kg
0 - 1.5	960
2.5 - 4	1.9
5 - 6.5	0.28
7.5 - 9	0.26

SB-18

Depth (ft)	PCBs mg/kg
0 - 1.5	290
2.5 - 4	9
5 - 6.5	22
10 - 11.5	19
12.5 - 14	1.6
15 - 16.5	0.094
17.5 - 19	0.05

PS-6

Depth (ft)	PCBs mg/kg
0 - 1.5	1100
2.5 - 4	0.21
5 - 6.5	2.1
7.5 - 9	1

SB-24

Depth (ft)	PCBs mg/kg
0 - 1.5	810
2.5 - 4	5.2
5 - 6.5	0.87 U

PS-5

Depth (ft)	PCBs mg/kg
0 - 1.5	530
2.5 - 4	76
5 - 6.5	12
7.5 - 9	14

SB-41

Depth (ft)	PCBs mg/kg
0 - 1.5	380
2.5 - 4	0.96 U
5 - 6.5	0.97 U
7.5 - 9	0.020 U

SB-21

Depth (ft)	PCBs mg/kg
0 - 1.5	13
2.5 - 4	0.92 U
5 - 6.5	0.84 U
7.5 - 9	0.019 J

SB-22

Depth (ft)	PCBs mg/kg
0 - 1.5	29
2.5 - 4	1.9
5 - 6.5	47
7.5 - 9	2.4

SB-1

Depth (ft)	PCBs mg/kg
0 - 1.5	85
2.5 - 4	33
5 - 6.5	0.056
7.5 - 9	2.7
12.5 - 14	0.13
17.5 - 19	0.020 U

PS-7

Depth (ft)	PCBs mg/kg
0 - 1.5	1400
2.5 - 4	4.8
7.5 - 9	110

SB-26

Depth (ft)	PCBs mg/kg
0 - 1.5	290
2.5 - 4	0.88 U
5 - 6.5	0.96
7.5 - 9	1
10 - 11.5	0.067

SB-2

Depth (ft)	PCBs mg/kg
0 - 1.5	150
2.5 - 4	120
5 - 6.5	5.6
17.5 - 19	0.033

SB-36

Depth (ft)	PCBs mg/kg
0 - 1.5	1.3
2.5 - 4	20
5 - 6.5	0.029
7.5 - 9	0.46

SB-28

Depth (ft)	PCBs mg/kg
0 - 1.5	690
2.5 - 4	1.1
5 - 6.5	3
7.5 - 9	0.057

PS-8

Depth (ft)	PCBs mg/kg
0 - 1.5	290
2.5 - 4	29
5 - 6.5	1.2
7.5 - 9	0.25

SB-37

Depth (ft)	PCBs mg/kg
0 - 1.5	0.82 U
2.5 - 4	0.3
5 - 6.5	79
7.5 - 9	0.17

SB-39

Depth (ft)	PCBs mg/kg
0 - 1.5	1200
2.5 - 4	2.2
5 - 6.5	0.020 U
7.5 - 9	3.1

SB-40

Depth (ft)	PCBs mg/kg
0 - 1.5	460
5 - 6.5	2.2
7.5 - 9	0.03

SB-11 70 (0-1.5 ft)
SB-17
SB-10 100 (0-1.5 ft)
PS-2
SB-19 5.7 (0-1.5 ft)
SB-16
SB-41
SB-18
MW-08
PS-4
SB-9 100 (0-1.5 ft)
A-3
SB-29 2.9 (0-1.5 ft)
A-4
SB-21
SB-22
SB-8* 1.5 (0-1.5 ft)
PS-5
SB-30 0.14 (5-6.5 ft)
B-1
SB-7 200 (0-1.5 ft)
SB-24
PS-6
SB-23 0.89 (0-1.5 ft)
SB-1
SB-31 5.4 (0-1.5 ft)
SB-33 3.6 (0-1.5 ft)
B-2
SB-26
PS-7
SB-32 0.081 (5-6.5 ft)
SB-25 1.8 (2.5-4 ft)
T5090003 23
SB-36
SB-51 200 (0-1.5 ft)
SB-2
B-3
SB-34 2.8 (7.5-9 ft)
SB-35 9.8 (2.5-4 ft)
T5090001 11
SB-27 5.5 (0-1.5 ft)
CB-1*
PS-8
SB-52 53 (0-1.5 ft)
MW-04
SB-40
B-6
B
SB-50 730 (0-1.5 ft)
SB-39
B-4
SB-38 2.9 (5-6.5 ft)
B-5
SB-37
B-8
B-7
MW-05
SB-3
North Building

- Proposed shallow boring (6.5 ft)
- Proposed deep boring (9.0-16.5 ft)

PCB concentration (mg/kg)

- 0 - 10
- 10 - 25
- 25 - 50
- 50 - 500
- > 500
- excavated

Label

1.4 (0-1ft) Highest concentration mg/kg, Depth

grab = sample ID, result
shallow boring = sample ID, result, depth

* Value averaged with field duplicate

- Catch basin
- Underground concrete tank
- Existing monitoring well (MW)
- B — Sampling area
- Western boundary of Port property acquired from Duwamish Waterway District No 1.
- Asphalt pavement over soil
- PCB soil removal area (paved)
- Building
- Concrete
- Concrete under asphalt
- UST heating oil

Sources: EMCON 1996; Windward et al. 2005b, c, e

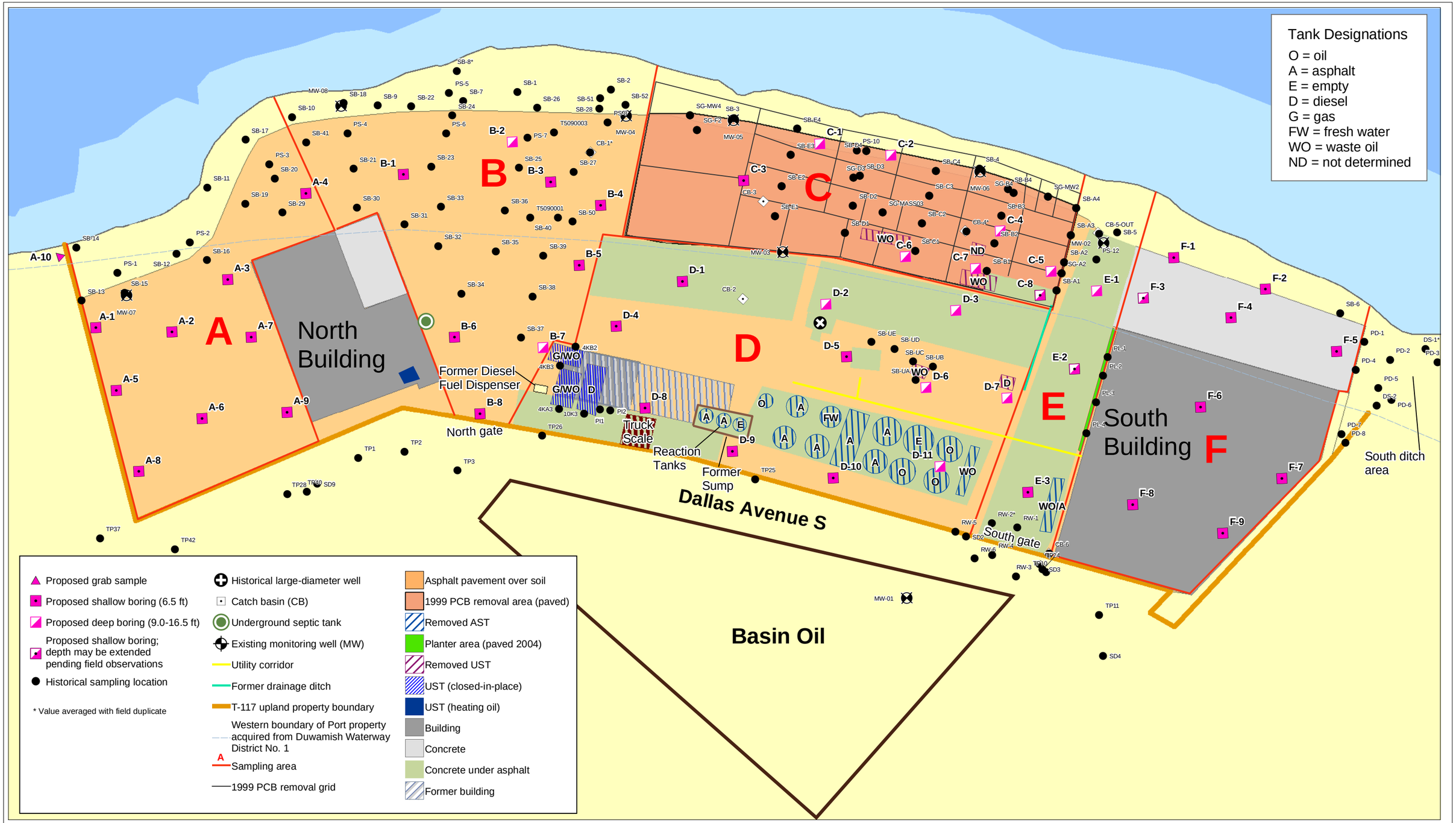
0 12.5 25 50 Feet
0 2.5 5 10 Meters

N

Figure 2-10. Area B PCB results and proposed borings

Source (1929, 1977); prepared by KH 10/21/05, revised 01/16/06 Map 2102

W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland Investigation

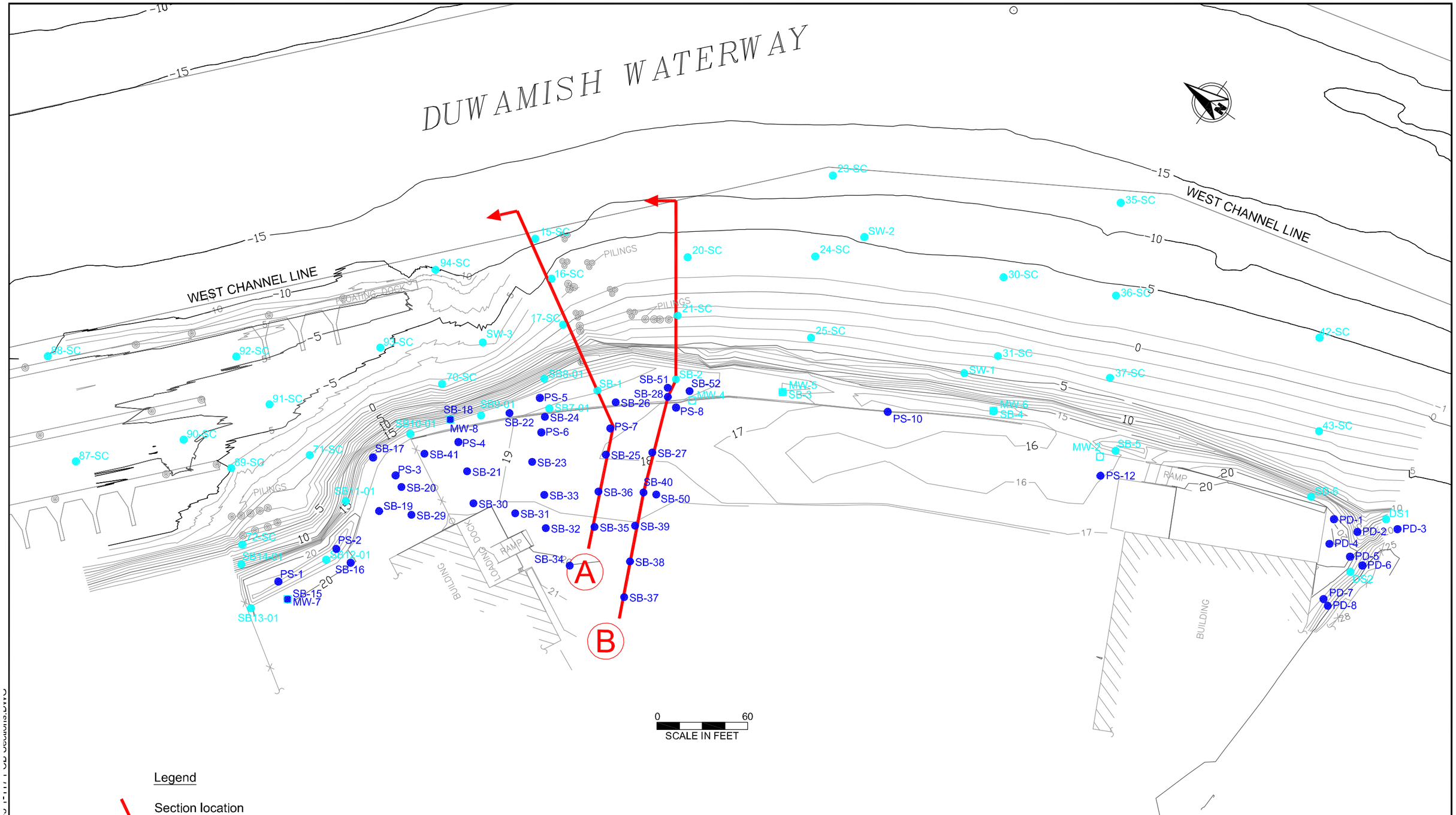


Sources: EMCON 1996; Hart Crowser 1992; Onsite 1999, 2000b, 2004; Windward et al. 2005b, c, e

Figure 3-1. Proposed upland borings and historical sampling locations

Source (1929, 1977, 2041); prepared by KH 11/11/05, revised 01/16/06, Map 2096

W:\Projects\03-08-12 T-117 (Malarkey)\Data\GIS\Upland Investigation



Legend

- Section location
- A — Section number
- SB-35 — August 2005 Sample location & ID
- 42-SC — Historical Sample location & ID

Notes:

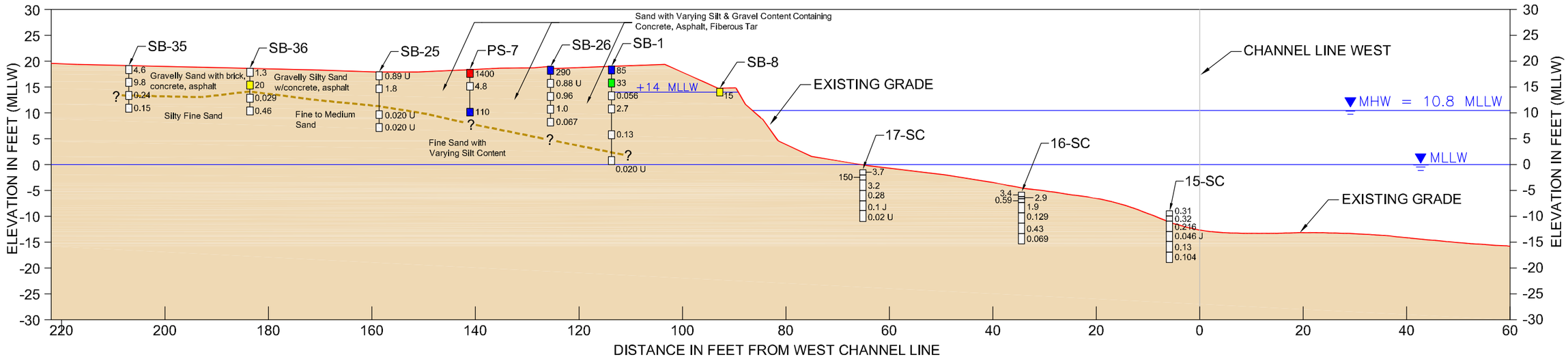
1. Topographic Survey and Marina Hydro Survey by INCA Engineers, Inc., of Bellevue, WA, November 10, 2004. Vertical Datum is based on MLLW (feet), and Horizontal Datum is based on NAD 83/91 (feet). Horizontal coordinate system is WA State Plane North (feet).
2. Multi-beam Channel Hydro Survey is a subset of the David Evans and Associates Aug. 25-29, 2003, survey for Lower Duwamish Waterway Group. Vertical Datum is based on MLLW (feet) and Horizontal Datum is based on NAD 93/91(feet).

PORT OF SEATTLE T-117

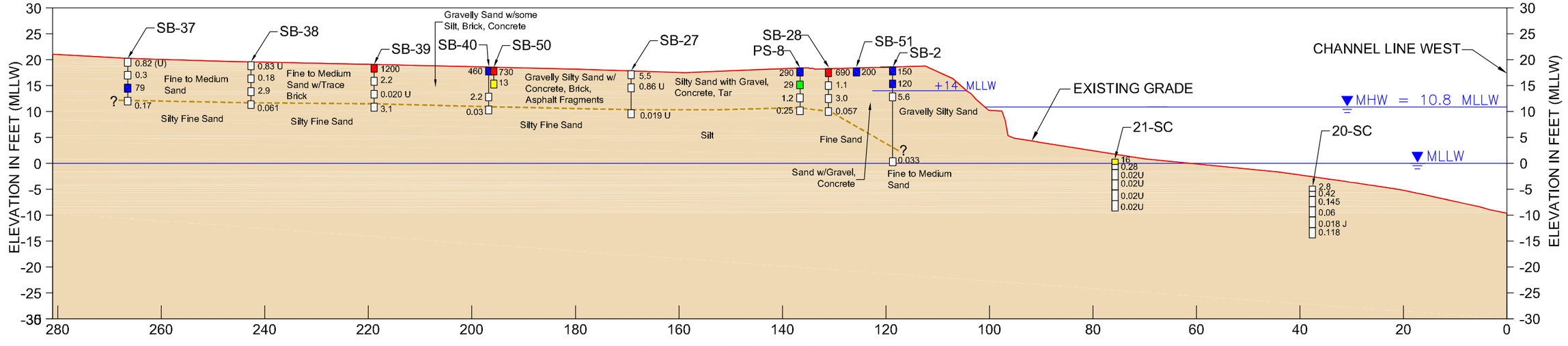
Figure 3-2
Cross Section Location Map

WIN001 01/06/06

Dalton, Olmsted & Fuglevand, Inc.

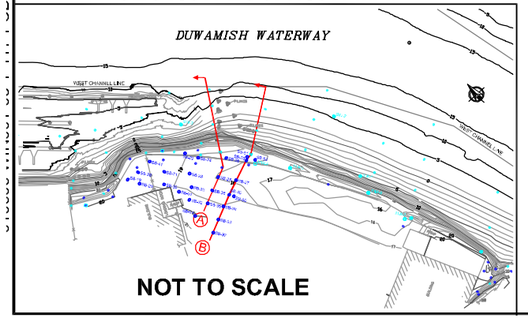


CROSS SECTION A



CROSS SECTION B

SECTION LOCATION MAP



NOT TO SCALE

Sample Legend

- SB-1 Soil boring location
- 21-SC Sediment core location
- Soil/sediment sample, detected PCBs 0 - 10 mg/kg dry weight
- Soil/sediment sample, detected PCBs 10 - 25 mg/kg dry weight
- Soil/sediment sample, detected PCBs 25 - 50 mg/kg dry weight
- Soil/sediment sample, detected PCBs 50 - 500 mg/kg dry weight
- Soil/sediment sample, detected PCBs >500 mg/kg dry weight
- 26 PCB concentration, mg/kg dry weight
- Apparent extent of upper fill

PORT OF SEATTLE T-117

Figure 3-3
Cross Sections A and B

WIN001 01/06/06

Dalton, Olmsted & Fuglevand, Inc.